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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/973,895

10/11/2001

Mun Geon Kyeong

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05/18/2005

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EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,895

Applicant(s)

KYEONG ET AL.

Examiner

Kevin Y. Kim

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-36 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 11 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/11/01.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1,8,16,23,31 and 36.

1. “the demodulator” in the “correlating means located in the demodulator” is not definite because it is not clear which one of “a plurality of demodulating means,” recited above, is referred to. However, in the context of the claim, it appears that “the demodulator” was meant to refer back to each of “a plurality of demodulating means” and will be understood as such.

2. “weight vectors” are recited to be generated “based on the reference signals and *the signals*” or “based on the difference signals and the *signals*.” Emphasis added.

However, it is not clear what “the signals” is referring back to. Note that the claim recites “signals received,” “demodulated signals,” “pilot channel signals” and “a fading signal,” etc.

3. “the weight vector” in the “for providing the weight vector to the digital beamforming networks” is not definite because it is not clear which one of “weight vectors,” recited above, is referred to. However, in the context of the claim, it appears that the term was meant to refer back to all of the “weight vectors” and will be understood as such.

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Claims 3,10,18 and 25.

“the channel estimating means” lacks a positive antecedent basis. It appears that the term was means to refer back to “Doppler frequency estimating means” recited in claim 1.

Claims 5,12,20,27 and 35.

Since “a Compton’s reference signal generation loop model” is not clearly defined, the limitation of generating “the reference signal” based on the indefinite model is also indefinite.

Claims 6,14,21 and 29.

“the digital beamforming network” lacks a positive antecedent basis. It appears that the term refers back to “the digital beamforming networks.”

Claim 7.

“the signals” in “the signals for a next weight vector update time” is not clear since claim 1 recites “signals received,” “demodulated signals,” “pilot channel signals” and “a fading signal,” etc.

Claim 13 and 28.

“the reference signal generator” lacks a positive antecedent basis. It appears that the term refers back to each of “the reference signal generators.”

The rest of the claims are rejected as dependent on their respective rejected base claims.

Allowable Subject Matter

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3. Claims 1-36 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rabideau et al (US 6,598,014), Rashid-Farrokhhi et al (US 6,304,750), Chang et al (US 6,249,251) and Upadhyay et al (US 6,115,409) discloses a digital beamforming network with adjustable weights.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEVIN KIM
PATENT EXAMINER

